WHAT IS CLAIMED IS:

1.   An information processing apparatus comprising:

acquisition means for acquiring an input coordinate sequence generated by sampling a handwritten input pattern at predetermined intervals;

line segment conversion means for converting a pattern expressed by the input coordinate sequence into line segments by approximating the pattern by coupling a plurality of line segments;

generation means for generating angle distribution data on the basis of directions of the line segments obtained by said line segment conversion means; and

matching means for executing a matching process of a pattern on the basis of the angle distribution data generated by said generation means.

2.   The apparatus according to claim 1, further comprising:

registration means for registering a standard pattern on the basis of the angle distribution data generated by said generation means, and

wherein said matching means discriminates similarity of the handwritten input pattern using the data registered by said registration means.

3.   The apparatus according to claim-1, wherein said generation means comprises:

setting means for setting as a reference line a
line segment having a predetermined angle with respect
to a horizontal direction on the basis of the input
coordinate sequence, and

5   said generation means generates the angle
distribution data by calculating angles the respective
line segments obtained by said line segment conversion
means make with the reference line.

4.   The apparatus according to claim 3, wherein said
10   setting means sets a line segment that connects start
and end coordinates of the input coordinate sequence as
the reference line.

5.   The apparatus according to claim 3, wherein said
generation means generates the angle distribution data
15   on the basis of angles division positions make with the
reference line, the division positions being obtained
by equally dividing a total line segment length as a
sum of lengths along line segments of all line segments
obtained by said line segment conversion means.

20   6.   The apparatus according to claim 1, wherein said
registration means registers angle distribution data
defined by average angles at respective positions of a
plurality of angle distribution data obtained from a
plurality of input coordinate sequences.

25   7.   The apparatus according to claim 1, wherein said
acquisition means acquires an input coordinate sequence
using a digitizer.

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8.   The apparatus according to claim 1, wherein said registration means comprises:

indeterminate region extraction means for extracting portions where deviations of distribution values exceed a predetermined value from a plurality of angle distribution data obtained for a plurality of input coordinate sequences as indeterminate regions; and

angle distribution data generation means for generating standard angle distribution data based on the plurality of angle distribution data, and

said registration means registers as the standard pattern information indicating the indeterminate regions extracted by said indeterminate region extraction means and the standard angle distribution data.

9.   The apparatus according to claim 8, wherein said matching means discriminates similarity with a handwritten input pattern using the angle distribution data registered by said registration means except for the indeterminate regions.

10.   The apparatus according to claim 8, wherein said angle distribution data generation means generates standard angle distribution data using average values of angle distribution values in the plurality of angle distribution data.

11.   An information processing method comprising:

the acquisition step of acquiring an input

coordinate sequence generated by sampling a handwritten

input pattern at predetermined intervals;

the line segment conversion step of converting a

5   pattern expressed by the input coordinate sequence into

line segments by approximating the pattern by coupling

a plurality of line segments;

the generation step of generating angle

distribution data on the basis of directions of the

10   line segments obtained in the line segment conversion

step; and

the matching step of executing a matching process

of a pattern on the basis of the angle distribution

data generated in the generation step.

15   12.   The method according to claim 11, further

comprising:

the registration step of registering a standard

pattern on the basis of the angle distribution data

generated in the generation step, and

20   wherein the matching step includes the step of

discriminating similarity of the handwritten input

pattern using the data registered in the registration

step.

13.   The method according to claim 11, wherein the

25   generation step comprises:

the setting step of setting as a reference line a

line segment having a predetermined angle with respect

to a horizontal direction on the basis of the input
coordinate sequence, and

the generation step includes the step of
generating the angle distribution data by calculating

5   angles the respective line segments obtained in the
line segment conversion step make with the reference
line.

14.   The method according to claim 13, wherein the
setting step includes the step of setting a line

10   segment that connects start and end coordinates of the
input coordinate sequence as the reference line.

15.   The method according to claim 13, wherein the
generation step includes the step of generating the
angle distribution data on the basis of angles division

15   positions make with the reference line, the division
positions being obtained by equally dividing a total
line segment length as a sum of lengths along line
segments of all line segments obtained in the line
segment conversion step.

20   16.   The method according to claim 11, wherein the
registration step includes the step of registering
angle distribution data defined by average angles at
respective positions of a plurality of angle
distribution data obtained from a plurality of input

25   coordinate sequences.

17.   The method according to claim 11, wherein the acquisition step includes the step of acquiring an input coordinate sequence using a digitizer.

18.   The method according to claim 11, wherein the registration step comprises:

the indeterminate region extraction step of extracting portions where deviations of distribution values exceed a predetermined value from a plurality of angle distribution data obtained for a plurality of input coordinate sequences as indeterminate regions; and

the angle distribution data generation step of generating standard angle distribution data based on the plurality of angle distribution data, and

the registration step includes the step of registering as the standard pattern information indicating the indeterminate regions extracted in the indeterminate region extraction step and the standard angle distribution data.

19.   The method according to claim 18, wherein the matching step includes the step of discriminating similarity with a handwritten input pattern using the angle distribution data registered in the registration step except for the indeterminate regions.

20.   The method according to claim 18, wherein the angle distribution data generation step includes the step of generating standard angle distribution data

using average values of angle distribution values in the plurality of angle distribution data.

21.　　A storage medium that stores a control program for making a computer implement a method cited in claim 11.

22.　　A computer program that comprises program codes for making a computer implement a method cited in claim 11.